

## REMARKS

### *Status of the Claims*

Claims 33-51 are pending in the application. In this Response, claims 33-37 and 43-46 have been amended and new claims 52-56 have been added. Exemplary support for the claim amendments and new claims can be found throughout the specification and claims as originally filed.

Applicants respectfully request the Examiner to reconsider and withdraw the outstanding rejections in view of the foregoing amendments and the following remarks.

### *Rejection under 35 U.S.C. § 112*

Claims 33-51 have been rejected under 35 U.S.C. § 112, second paragraph as allegedly indefinite. Claims 33-37 and 43-46 have been amended for clarity. Accordingly, the rejection under 35 U.S.C. § 112, second paragraph, should be withdrawn.

### *Rejection under 35 U.S.C. § 103*

Claims 33-51 have been rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over U.S. Patent No. 5,422,015 (hereinafter "Angell") in view of U.S. Patent No. 5,385,896 (hereinafter "Bryan"). The rejection is respectfully traversed.

Initially, it should be noted that the Office has the initial burden of establishing a factual basis to support the legal conclusion of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). For rejections under 35 U.S.C. § 103(a) based upon a combination of prior art elements, in *KSR Int'l v. Teleflex Inc.*, 127 S.Ct. 1727, 1741, 82 USPQ2d 1385, 1396 (2007), the Supreme Court stated that a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006).

Amended independent claim 33 recites a method of treating sewage sludge to reduce the pathogen content of said sludge, the method comprising the steps of: (a) adding to the sludge an effective amount of a phosphorus-containing compound, wherein the phosphorus-containing compound is a phosphonium compound, wherein the phosphonium compound is

either: (i) a tetrakis(hydroxyorgano)phosphonium salt; or (ii) a compound of formula (I)  
 $[R'R''(CH_2OH)_2 P^+]_n X^-$  (I) wherein: n is the valency of X; R' and R'', which are the same or different, are selected from an alkyl, hydroxyalkyl, alkenyl or aryl moiety and X is an anion; or wherein: the phosphorus-containing compound is an alkyl-substituted phosphine as shown in formula (II):  $(CH_2OH R_2) P^-$  (II) wherein: each R, which are the same or different, is selected from an alkyl, hydroxyalkyl, alkenyl or aryl moiety; and (b) keeping the phosphorus-containing compound in contact with the sludge for sufficient time to reduce the amount of pathogens present in the sludge by an amount equivalent to a logarithmic reduction of 2 or more.

In contrast, Angell discusses a method of treating sewage sludge to reduce the pathogen content of said sludge comprising the step of adding an amount of phosphoric acid and keeping the compound in contact with the sludge for a time. (Claims 1 and 2).

Applicants respectfully submit that the presently recited claims relate to a method of treating sewage sludge to reduce the pathogen content of said sludge using phosphorous-containing compounds limited to specific phosphonium and phosphine compounds and keeping the phosphorus-containing compound in contact with the sludge for sufficient time to reduce the amount of pathogens present in the sludge by an amount equivalent to a logarithmic reduction of 2 or more.

Bryan has been cited as addressing the deficiencies of Angell. Bryan discusses a synergistic combination of tris hydroxy methyl phosphine biocide with an aldehyde biocide for the treatment of aerobic and anaerobic water systems contaminated or liable to be contaminated with microorganisms. (Col. 2, lines 9-14, Col. 2, lines 67-68, and Col. 3, lines 1-8). Bryan gives a definition of what is meant by aerobic and anaerobic water systems contaminated or liable to be contaminated with microorganisms in the paragraph bridging Cols. 2 and 3 wherein the words "sludge" and "sewage sludge" are completely absent from the mentioned list of mediums.

Applicants respectfully submit that Bryan focuses on the treatment of plants (see Col. 3, lines 8-32) and is completely silent regarding treatment to reduce the pathogen content of a water medium in general and sewage sludge in particular and thus, does not disclose or suggest any sort of pathogen level reduction.

Thus, Applicants respectfully submit that for at least the above-noted reasons, one of ordinary skill in the art of treating sewage sludge would not have been motivated to combine

Angell and Bryan and would not have obtained the presently pending claims as a result of said alleged combination.

Accordingly, Applicants respectfully submit that the rejection over Angell and Bryan should be withdrawn.

***Double Patenting***

Claims 33-51 have been provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 35-62 of co-pending Application No. 11/793,303 ("the '303 application"), claims 37-63 of co-pending Application No. 11/630,604 ("the '604 application"), and claims 43-58 of co-pending Application No. 10/559,970 ("the '970 application").

Without conceding the propriety of the rejections over the '303 application, the '604 application, and the '970 application, Applicants submit herewith Terminal Disclaimers over the three co-pending applications.

It should be noted that the filing of a Terminal Disclaimer is not to be construed as an admission of the propriety of the rejection on obvious double patenting. *Quad Environmental Technologies Corp. v. Union Sanitary District*, 946 F.2d 870, 20 USPQ2d 1392 (Fed. Cir. 1991).

In view of the foregoing, Applicants request withdrawal of the provisional obviousness-type double patenting rejections.

***Conclusion***

Applicants invite the Examiner to contact Applicants' representative at the telephone number listed below if any issues remain in this matter, or if a discussion regarding any portion of the application is desired by the Examiner.

In the event that this paper is not timely filed within the currently set shortened statutory period, Applicants respectfully petition for an appropriate extension of time. The fees for such extension of time may be charged to our Deposit Account No. 02-4800.

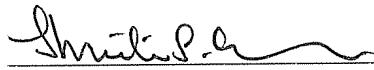
In the event that any additional fees are due with this paper, please charge our Deposit Account No. 02-4800.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

Date: December 1, 2008

By:



Shruti S. Costales

Registration No. 56,333

**Customer No. 21839**  
P.O. Box 1404  
Alexandria, VA 22313-1404  
703 836 6620